

ALLEN AVIONICS, INC.

Narrow Band Linear Phase Bandpass Custom Built LC Filters - 1 KHz to 80 MHz

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The **Allen Avionics** filters tabulated on this page are the result of state of the art computer aided network synthesis and offer the best compromise in fast roll off, delay linearity, size and cost.

- ▶ **Type:** Synthesized type offering excellence in fast cut-off and low delay variation characteristics.
- ▶ **Frequency Range:** 1 KHz to 80 MHz
- ▶ **Impedance Range:** 50 Ohms to 10 KOhms
- ▶ **Q Range:** 2 to 50
- ▶ **3 dB Bandwidth:** .02 to .5 x Center Frequency (F_0)
- ▶ **Construction:** Sealed in metal cans
- ▶ **Maximum Ripple:** .5 dB

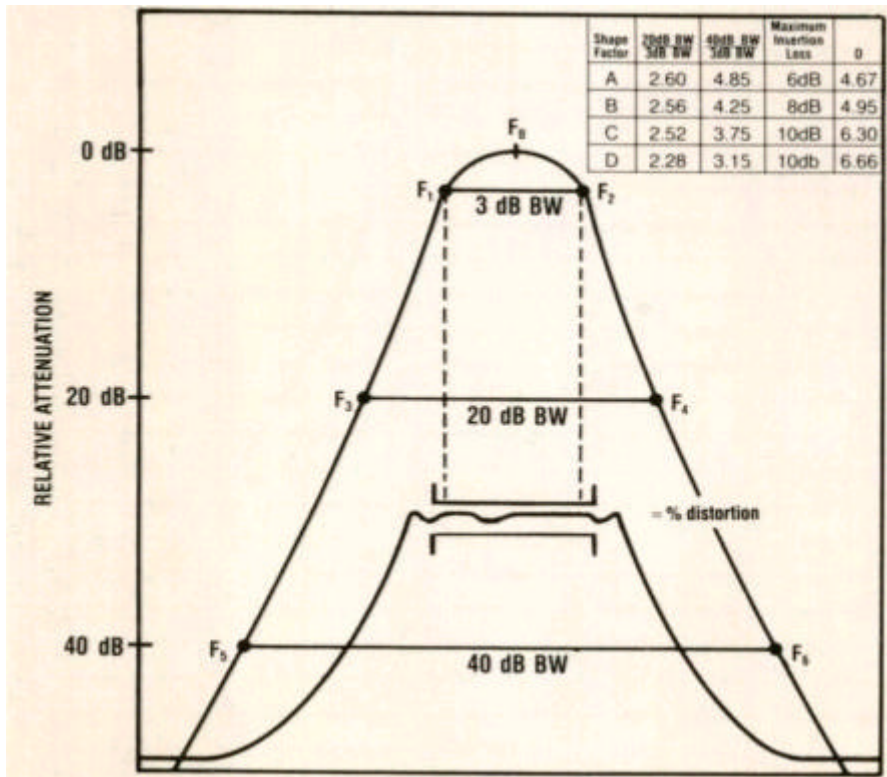
Order any Center Frequency from 1 KHz to 80 MHz.
Interpolation between tabulated Center Frequencies and Bandwidth is allowable.

Size (Inches)

For optimum performance all units are supplied in metal cans with BNC connectors. SMA connectors, printed circuit mounting and end terminals are available on request.

Metal Cans

	L	W	H
M -	3.00 x	1.625	x 1.125
M1 -	3.00 x	2.000	x 1.250
N -	4.00 x	1.500	x 1.250
N1 -	4.00 x	2.000	x 1.250
O	5.00 x	1.500	x 1.250
O1	5.00 x	2.000	x 1.250
P	6.00 x	1.500	x 1.250
P1	6.00 x	2.000	x 1.250



$$F_0 = \frac{1}{2} (F_1 + F_2) = \frac{1}{2} (F_3 + F_4) = \frac{1}{2} (F_5 + F_6)$$

Approximate Passband Delay (sec.) = Delay (D) / 2 x p x F_C (Hz)

Tabulated delay distortion (%) is defined as the maximum delay difference (%) between any two points within the 3dB passband.

Narrow Band Linear Phase Bandpass Filters - Series NBLPBP

Center Frequency (Fo)	Shape Factor	Q Range (Fo) / 3dB BW	Maximum Distortion		Impedance Range (Ohms)	Metal Can Size	Center Frequency (Fo)	Shape Factor	Q Range (Fo) / 3dB BW	Maximum Distortion		Impedance Range (Ohms)	Metal Can Size
			Delay (%)	Phase (± Degrees)						Delay (%)	Phase (± Degrees)		
1 KHz	A	2-4	10	6	1K	N	50KHz	A	2-5	10	6	100-2.5K	M
		4-10	10	6	1K	N1			5-12	10	6	100-1.5K	M1
		10-15	10	6	1K	O			12-25	10	6	100-1K	N
	B	8-10	15	9	1K	O1			25-50	5	3	100-500	N
		10-12	10	6	500	P		B	7-10	15	9	100-1K	N1
	C	8-12	15	9	500	P1			10-25	10	6	100-1K	N1
		D	2-5	10	12	2K		P1	25-35	10	6	100-500	O
5-10	10		12	2K-5K	P1	C	7-10	15	9	100-1K	O1		
5-10	10	12	2K-5K	P1	10-25		10	6	100-500	O1			
5 KHz	A	2-5	10	6	500-2.5K	N	100KHz	A	2-6	10	6	50-1 K	M
		5-12	10	6	500-2K	N1			6-15	10	6	50-500	M1
	B	8-10	15	9	500-1K	N1			15-25	10	6	50-500	N
		10-15	10	6	500-1K	O			25-50	10	6	50-250	N1
	C	8-12	15	9	500-1K	O1		B	7-10	15	9	50-500	N
		12-15	10	6	500	P			10-25	10	6	50-200	N1
	D	2-8	10	12	2K-5K	P1		C	25-50	10	6	50-100	O1
8-15		10	12	3K-6K	P1	7-10	15		9	50-200	N1		
8-15		10	12	3K-6K	P1	10-25	10		6	50-150	O1		
10 KHz	A	2-5	10	6	200-5K	N	250 KHz	A	2-5	10	6	50-500	M
		5-12	10	6	200-1.5K	N			6-12	10	6	50-250	M1
		12-25	10	6	200-1K	N1			12-25	10	6	50-200	N
	B	8-10	15	9	200-1K	N1			25-50	10	6	50-125	N1
		10-20	10	6	500	O		B	7-10	15	9	50-250	N
	C	8-10	15	9	200-1K	O1			10-25	10	6	50-150	N1
		10-20	10	6	500	O1		25-50	10	6	50-75	O1	
D	2-5	10	12	1K-5K	P	C	7-10	15	9	50-150	N		
	5-10	10	12	1K-10K	P1		10-25	10	6	50-100	N1		
	10-20	10	12	5K-10K	P1		25-50	10	6	50-75	O1		
25 KHz	A	2-5	10	6	150-2.5K	M	250 KHz	D	2-5	10	12	100-500	N1
		5-12	10	6	150-1.5K	M1			5-10	10	12	500-1000	N1
		12-25	10	6	100-1K	N			10-18	10	12	250-1000	O1
		25-35	5	3	100-500	N			18-25	10	12	500	P1
	B	7-10	15	9	100-1K	N1		D	25-30	10	12	500	P1
		10-25	10	6	100-1K	N1			A	2-5	10	6	50-500
	25-30	10	6	100-500	O	6-12				10	6	50-250	M1
C	7-10	15	9	100-1K	O1	12-25	10	6		50-200	N		
	10-25	10	6	100-500	O1	25-50	10	6		50-125	N1		
D	2-5	10	12	500-1K	P	B	7-10	15	9	50-250	N		
	5-12	10	12	1K-5K	P1		10-25	10	6	50-150	N1		
	12-25	10	12	5K	P1		25-50	10	6	50-75	O1		

Center Frequency (Fo)	Shape Factor	Q Range (Fo) / 3dB BW	Maximum Distortion		Impedance Range (Ohms)	Metal Can Size
			Delay (%)	Phase (± Degrees)		
500 KHz	A	2-5	10	6	50-250	M
		5-10	10	6	50-200	M1
		10-20	10	6	50-150	N
		20-50	10	6	50-100	N
	B	7-10	15	9	50-100	N1
		10-25	10	6	50-100	O
		25-50	10	6	50	O1
	C	7-10	15	9	50-100	N
		10-25	10	6	50	N1
		25-50	10	6	50	O1
	D	2-5	10	12	100-500	O1
		5-10	10	12	200-1000	P1
10-20		10	12	500-1000	P1	
750 KHz	A	2-5	10	6	50-150	M
		5-10	10	6	50-150	M1
		10-25	10	6	50-100	N
		25-50	10	6	50	N1
	B	7-10	15	9	50-100	N
		10-25	10	6	50	N1
		25-50	10	6	50	O1
	C	7-10	15	9	50-100	N
		10-25	10	6	50	N1
		25-50	10	6	50	O1
	D	2-5	10	12	50-100	N1
		5-10	10	12	100-1000	O1
10-12		10	12	500	P1	
1 MHz	A	2-5	10	6	50-100	M
		5-10	10	6	50-100	M1
		10-25	10	6	50-75	N
		25-40	10	6	50	N1
		40-50	5	3	50	O
	B	7-10	15	9	50	N
		10-25	10	6	50	N1
		25-50	10	6	50	O1
	C	8-12	15	9	50	N1
		12-25	10	6	50	O1
		25-50	10	6	50	P
	D	2-5	10	12	50-100	N1
5-10		10	12	100-500	O1	
10-15		10	12	500	P1	

Center Frequency (Fo)	Shape Factor	Q Range (Fo) / 3dB BW	Maximum Distortion		Impedance Range (Ohms)	Metal Can Size
			Delay (%)	Phase (± Degrees)		
2.5 MHz	A	2-5	10	6	50-100	M
		5-12	10	6	50-75	M1
		12-25	10	6	50-75	N
		25-40	10	6	50	N1
		40-50	5	3	50	O
	B	7-10	15	9	50	N
		10-25	10	6	50	N1
		25-50	10	6	50	O1
	C	8-12	15	9	50	N1
		12-25	10	6	50	O1
		25-50	10	6	50	P
	D	2-5	10	12	50-100	O1
5-10		10	12	500	P1	
5MHz	A	2-5	10	6	50-100	M
		5-12	10	6	50-75	N
		12-50	10	6	50-75	N1
		25-50	10	6	50	O
		40-50	5	3	50	O
	B	6-10	15	9	50	O
		10-25	10	6	50	O1
		25-50	10	6	50	P
	C	6-10	15	9	50	O
		10-25	10	6	50	O1
		25-50	10	6	50	P
	7.5 MHz	A	6-8	15	9	50
8-12			10	6	50	N
12-25			10	6	50	N1
25-40			10	6	50	O
40-50			5	3	50	O1
B		6-10	15	9	50	N
		10-25	10	6	50	O
		25-50	10	6	50	P
C		6-10	15	9	50	O
		10-25	10	6	50	O1
		25-50	10	6	50	P
10MHz		A	6-12	10	6	50
	12-25		10	6	50	N
	25-40		10	6	50	O
	40-50		5	3	50	P
	B	6-10	15	9	50	N
		10-25	10	6	50	O
		25-50	10	6	50	P

Center Frequency (Fo)	Shape Factor	Q Range (Fo) / 3dB BW	Maximum Distortion		Impedance Range (Ohms)	Metal Can Size	
			Delay (%)	Phase (± Degrees)			
10MHz (cont'd.)	C	6-10	15	9	50	N	
		10-25	10	6	50	O	
		25-50	10	6	50	P	
15MHz	A	6-12	10	6	50	M	
		12-25	10	6	50	N	
		25-40	10	6	50	O	
		40-50	5	3	50	P	
	B	6-10	15	9	50	N	
		10-25	10	6	50	O	
		25-50	10	6	50	P	
	C	6-10	15	9	50	N	
		10-25	10	6	50	O	
		25-50	10	6	50	P	
	20MHz	A	6-12	10	6	50	M
			12-25	10	6	50	N
25-40			10	6	50	O	
40-50			5	3	50	P	
B		8-10	15	9	50	N	
		10-25	10	6	50	O	
		25-50	10	6	50	P	
C		8-12	15	9	50	N	
		12-25	10	6	50	O	
		25-50	10	6	50	P	
25MHz		A	6-10	15	9	50	M
			10-25	10	6	50	N
	25-45		10	6	50	O	
	45-50		10	6	50	P	
	B	8-12	15	9	50	N	
		12-25	10	6	50	O	
		25-50	10	6	50	P	
	C	10-12	15	9	50	N	
		12-25	10	6	50	O	
		25-50	10	6	50	P	
	30MHz	A	8-12	15	9	50	N
			12-25	10	6	50	O
25-40			10	6	50	P	
B		8-12	15	9	50	O	
		12-20	10	6	50	P	
		12-35	10	6	50	P	
C		10-12	15	9	50	O	
		12-25	10	6	50	P	

Center Frequency (Fo)	Shape Factor	Q Range (Fo) / 3dB BW	Maximum Distortion		Impedance Range (Ohms)	Metal Can Size
			Delay (%)	Phase (± Degrees)		
40MHz	A	8-12	15	9	50	N
		12-25	10	6	50	O
		25-40	10	6	50	P
	B	8-12	15	9	50	O
		12-20	10	6	50	P
		12-35	10	6	50	P
		10-12	15	9	50	O
	C	12-25	10	6	50	P
		10-12	15	9	50	O
50MHz	A	8-12	15	9	50	N
		12-25	10	6	50	O
		25-35	10	6	50	P
	B	8-12	15	9	50	N
		12-20	10	6	50	O
		20-30	10	6	50	O
	C	10-15	10	6	50	P
		15-20	10	6	50	P
		5-10	10	12	50	P1
60MHz	A	8-12	15	9	50	N
		12-25	10	6	50	O
		25-35	10	6	50	P
		8-12	15	9	50	N
	B	8-12	15	9	50	N
		12-20	10	6	50	O
		20-30	10	6	50	O
	C	10-15	10	6	50	P
		15-20	10	6	50	P
70MHz	A	8-12	15	9	50	N
		12-20	10	6	50	O
		20-30	10	6	50	P
	B	8-10	15	9	50	O
		10-20	10	6	50	O
		20-25	10	6	50	P
		10-15	10	6	50	P
	C	15-18	10	6	50	P1
	80 MHz	A	8-12	15	9	50
12-20			10	6	50	O
20-30			10	6	50	P
B		8-10	15	9	50	O
		10-20	10	6	50	P
		12-35	10	6	50	P
		20-25	10	6	50	P
C		10-15	10	6	50	P1

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